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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,346	06/27/2003	John Erik Lindholm	NVDA/P000575	8753

26291 7590 08/10/2005

MOSER, PATTERSON & SHERIDAN L.L.P.  
595 SHREWSBURY AVE, STE 100  
FIRST FLOOR  
SHREWSBURY, NJ 07702

EXAMINER
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MONESTIME, MACKLY

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/608,346

Applicant(s)

LINDHOLM ET AL.

Examiner

Mackly Monestime

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-19 is/are allowed.
- 6) ☒ Claim(s) 1 and 20-35 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. The amendment received on May 6, 2005 has entered and carefully considered, claims 1-35 are still pending in the application.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. As per claim 20, lines 11-12 recite the limitation “ **the execution unit**”, there is insufficient antecedent basis for this limitation.

5. As per claims 21-27, they are also rejected for incorporated the deficiencies of their base claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1 and 28-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Kwok et al (US Patent No. 6,008, 044).

8. As per claims 1 and 28, Kwok et al disclosed the invention as claimed, including a method of rendering a scene using a graphics processor (col. 5, line 43) comprising: configuring a multithreaded processing unit within the graphics processor to enable processing of samples independent of an order in which the samples are received; and processing the samples independent of the order in which the samples are received by the multithreaded processing unit to render at least a portion of the scene (parallel processing of threads; col. 4, lines 12-16; col. 5, lines 40-63).

9. As per claim 29, Kwok et al disclosed that the sample is at least one of higher-order surface, vertex, primitive, pixel and fragment (col. 5, lines 6-12 and lines 51-53).

10. As per claims 30-31 and 33-34, Kwok et al disclosed an application programming for a graphics processor comprising a function call to configure a multithreaded processing unit within the graphics processor to disable processing of samples independent of an order in which the samples are received (parallel processing of threads; col. 4, lines 12-16; col. 5, lines 61-63; and col. 10, lines 25-27).

11. As per claims 32 and 35, Kwok et al disclosed that the sample is at least one of higher-order surface, vertex, primitive, pixel and fragment (col. 5, lines 6-12 and lines 51-53).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

12. Claims 5-19 are allowable over the prior art of record.
13. Claims 20-27 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
14. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
15. The prior art of record further failed to teach or suggest either singularly or in combination a method of rendering a scene using a graphics processor for further comprising: "configuring the multithreaded processing unit to disable processing of samples independent of an order in which the samples are received to minimize visual artifacts in the rendered scene; and processing a portion of the samples in the order in which the samples are received by the multithreaded processing unit" (as per claim 2). The above limitations of the present claims invention have not found to be anticipated, suggested or made obvious by the prior art of record.
16. The prior art of record further failed to teach or suggest either singularly or in combination a graphics processor for multithreaded execution of program instruction further comprising: "a scheduler configured to receive the program instructions, determine availability of source data, and schedule the program instructions for execution to process the samples in a second order independent of the first order; a resource tracking unit configured to track the availability of the source data; and a

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dispatcher configured to output the program instructions in the second order to be executed by the at least one multithreaded processing unit (as per claims 5 and 17); and further failed to disclose: "determining that first source data required to process the first program instruction are not available; determining that second source data required to process the second program instruction are available; and dispatching the second program instruction to process the second sample in the execution unit prior to dispatching the first program instruction (as per claim 20). The totality of the combination of elements recited in the present claims invention were not found to be anticipated, suggested or made obvious by the prior art of record.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mackly Monestime whose telephone number is (571) 272-7786. The examiner can normally be reached on Monday to Thursday from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan, can be reached on (571) 272-7782.

**Any response to this action should be mailed to:**

Commissioner of Patent and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(571) 272-8300 (for Technology Center 2600 only)**

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,


Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Mackly Monestime

  
Patent Examiner

August 5, 2005

  
ULKA J. CHAUHAN  
PRIMARY EXAMINER